U.S. Serial No.:10/551,268

Applicant: Toshimi MATSUMOTO, et al. Office Action Mailing Date: October 5, 2007

Response to Office Action Submitted: February 5, 2008

AMENDMENTS TO THE SPECIFICATION

Replace Paragraphs 0010 through 0012 on Pages 3 through 5 as follows:

(0010)

Therefore, the present invention relates to a cement additive containing copolymers comprising one or more constitutional units represented by formula A:

$$\begin{array}{c|c}
H & (OT)_n & S_{1\overline{m1}} & S_{\overline{2m2}} & OR_2 \\
\hline
---C & ---C & \\
H & R_1 & (A)
\end{array}$$

wherein

R₁ is hydrogen, an alkyl group having 1 to 4 carbon atoms, an alkenyl group having 1 to 4 carbon atoms or an aryl group having 6 to 9 carbon atoms;

R₂ is hydrogen or an alkyl group having 1 to 9 carbon atoms, an alkenyl group having 1 to 9 carbon atoms or an aryl group having 6 to 9 carbon atoms;

T is alkylene (straight-chain and branched alkylene) having 1 to 4 carbon atoms or arylene having 6 to 9 carbon atoms;

n is 0 or 1;

 S_1 and S_2 are, independently of one another, $-OC_kH_{2k}$ - or $-OCH_2CHR_3$ -, with the proviso that k is 2 or 3, R_3 is an alkyl group having 1 to 9 carbon atoms, an aryl group having 6 to 9 carbon atoms; and

$$6 \le m_1 + m_2 \le 25$$
;

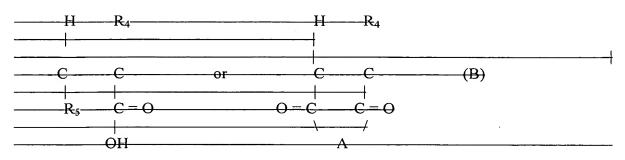
(0011)

one or more constitutional units represented by formula B:

Docket No. MBJ-0525

Applicant: Toshimi MATSUMOTO, et al. Office Action Mailing Date: October 5, 2007

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wherein

R₄ is hydrogen or a methyl group;

R₅ is hydrogen or a group represented by COOY;

Y is hydrogen, an aliphatic hydrocarbon group (including straight-chain, branched, saturated and unsaturated groups) having 1 to 8 carbon atoms, a cyclic hydrocarbon group (including straight-chain, branched, saturated and unsaturated groups) having 3 to 8 carbon atoms, a hydroxyalkyl group (including branched groups) having 2 to 5 carbon atoms, a hydroxyalkenyl group having 2 to 5 carbon atoms, metal (oxidation number I or II), an ammonium group derived from alkylamine having 1 to 20 carbon atoms, alkanolamine having 1 to 20 carbon atoms, cycloalkylamine having 5 to 8 carbon atoms, arylamine having 6 to 14 carbon atoms;

A is oxygen or NR₆; and

R₆ is hydrogen, an alkyl group having 1 to 20 carbon atoms, an aryl group having 6 to 20 carbon atoms, a sulfonyl group or a sulfanyl group;

and

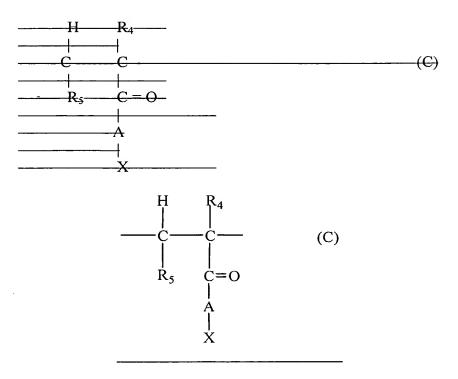
(0012)

one or more constitutional units represented by formula C:

U.S. Serial No.:10/551,268

Applicant: Toshimi MATSUMOTO, et al. Office Action Mailing Date: October 5, 2007

Response to Office Action Submitted: February 5, 2008



wherein ·

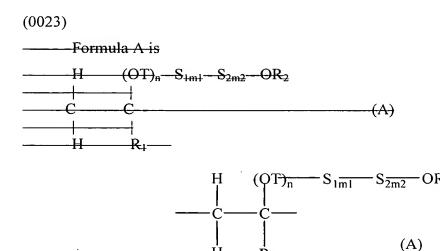
R4, R5 and A have the same meaning as in formula B;

X is an aliphatic hydrocarbon group (including straight-chain, branched, saturated and unsaturated groups) having 1 to 8 carbon atoms, a cyclic hydrocarbon group (including straight-chain, branched, saturated and unsaturated groups) having 3 to 8 carbon atoms, a hydroxyalkyl group (including branched groups) having 2 to 5 carbon atoms, a hydroxyalkenyl group having 2 to 5 carbon atoms, metal (oxidation number I or II), an ammonium group derived from alkylamine having 1 to 20 carbon atoms, alkanolamine having 1 to 20 carbon atoms, cycloalkylamine having 5 to 8 carbon atoms, arylamine having 6 to 14 carbon atoms.

Applicant: Toshimi MATSUMOTO, et al. Office Action Mailing Date: October 5, 2007

Response to Office Action Submitted: February 5, 2008

Replace Paragraphs 0023 through 0025 on Pages 8 through 10 as follows:



with the proviso that

 R_1 is hydrogen, an alkyl group having 1 to 4 carbon atoms such as methyl, etc., an alkenyl group having 1 to 4 carbon atoms such as allyl, or an aryl group having 6 to 9 carbon atoms;

R₂ is hydrogen or an alkyl group having 1 to 9 carbon atoms, an alkenyl group having 1 to 9 carbon atoms or an aryl group having 6 to 9 carbon atoms;

T is alkylene (straight-chain and branched alkylene) having 1 to 4 carbon atoms such as methylene, ethylene, propylene, butylene, etc., or arylene having 6 to 9 carbon atoms;

n is 0 or 1;

 S_1 and S_2 are, independently of one another, $-OC_kH_{2k}$ - or $-OCH_2CHR_3$ -, with the proviso that k is 2 or 3, R_3 is an alkyl group having 1 to 9 carbon atoms, an aryl group having 6 to 9 carbon atoms; and

$$6 \le m_1 + m_2 \le 25$$
.

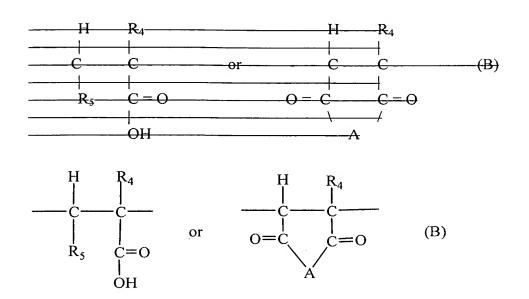
(0024)

Formula B is

U.S. Serial No.:10/551,268 Docket No. MBJ-0525

Applicant: Toshimi MATSUMOTO, et al. Office Action Mailing Date: October 5, 2007

Response to Office Action Submitted: February 5, 2008



with the proviso that

R₄ is hydrogen or a methyl group;

R₅ is hydrogen or a group represented by COOY;

Y is hydrogen, an aliphatic hydrocarbon group (including straight-chain, branched, saturated or unsaturated groups) having 1 to 8 carbon atoms, a cyclic hydrocarbon group (including straight-chain, branched, saturated or unsaturated groups) having 3 to 8 carbon atoms, a hydroxyalkyl group (including branched groups) having 2 to 5 carbon atoms, a hydroxyalkenyl group having 2 to 5 carbon atoms, metal (oxidation number I or II), an ammonium group derived from alkylamine having 1 to 20 carbon atoms, alkanolamine having 1 to 20 carbon atoms, cycloalkylamine having 5 to 8 carbon atoms, arylamine having 6 to 14 carbon atoms;

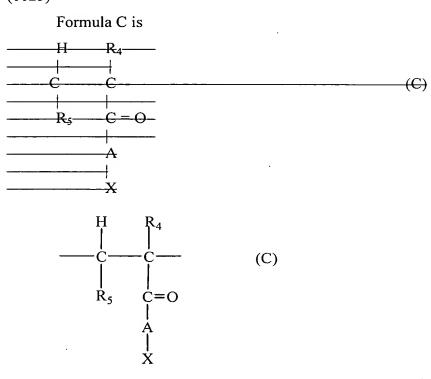
A is oxygen or NR₆; and

R₆ is hydrogen, an alkyl group having 1 to 20 carbon atoms, an aryl group having 6 to 20 carbon atoms, a sulfonyl group or a sulfanyl group.

Applicant: Toshimi MATSUMOTO, et al. Office Action Mailing Date: October 5, 2007

Response to Office Action Submitted: February 5, 2008

(0025)



with the proviso that

R4, R5 and A have the same meaning as in formula B;

X is an aliphatic hydrocarbon group (including straight-chain, branched, saturated and unsaturated groups) having 1 to 8 carbon atoms, a cyclic hydrocarbon group (including straight-chain, branched, saturated and unsaturated groups) having 3 to 8 carbon atoms, a hydroxyalkyl group (including branched groups) having 2 to 5 carbon atoms, a hydroxyalkenyl group having 2 to 5 carbon atoms, metal (oxidation number I or II), an ammonium group derived from alkylamine having 1 to 20 carbon atoms, alkanolamine having 1 to 20 carbon atoms, cycloalkylamine having 5 to 8 carbon atoms, arylamine having 6 to 14 carbon atoms.